

NATIONAL TRANSPORTATION SAFETY BOARD PILOT/OPERATOR AIRCRAFT ACCIDENT/INCIDENT REPORT

This form to be used for reporting civil and public aircraft accidents and incidents

BASIC INFORMATION

Accident/Incident Location

Nearest City/Place: Romeo State: Mich

ZIP: 48065 Country: USA

Latitude: N42.47.78 Longitude: W82.58.46

(Enter in decimal degrees or degrees:minutes:seconds)

Accident/Incident Date/Time

Date: 09/15/2021 Local Time: Appx 10:50 AM
mm/dd/yyyy

Time Zone: EST

Collision with Other Aircraft: ☐ Midair ☐ On-ground ☒ None

AIRCRAFT INFORMATION

Registration Number: N632SD

Manufacturer: Eurocopter

Model: AS350-B2

Serial Number: 3519

Year of Manufacture: 2001

Amateur-Built: ☐ Yes ☒ No If Yes: ☐ Kit/Plans ☐ Original Design Make: _____

- ☐ IFR-Equipped and Certified
☐ Commercial Space Flight
☐ Unmanned Aircraft

Maximum Gross Weight: 4961 lbs

Weight at Time of Accident/Incident: est 4700 lbs

Number of Seats: 6 Flight Crew Seats: 2

Cabin Crew Seats: _____ Passenger Seats: 4

Number of Engines: 1

Category of Aircraft

- ☐ Airplane
☐ Balloon
☐ Blimp/Dirigible
☐ Glider
☐ Gyroplane
☒ Helicopter
☐ Powered Lift
☐ Rocket
☐ Ultralight
☐ Unknown

Type of Airworthiness Certificate

(Check all that apply)

Standard

- ☒ Normal
☐ Aerobatic
☐ Balloon
☐ Commuter
☐ Transport
☐ Utility

Special

- ☐ Restricted
☐ Limited
☐ Provisional
☐ Special Flight
☐ Experimental
☐ Special Light-Sport
☐ Experimental Light-Sport

- ☐ Certificate of Authorization or Waiver (COA)
☐ None ☐ Unknown

Landing Gear

(Check all that apply)

☐ Retractable

- ☐ Tricycle ☐ Tailwheel
☐ Amphibian ☐ High Skid
☐ Emergency Float ☒ Skid
☐ Float ☐ Ski
☐ Hull ☐ Ski/Wheel
☐ Other Launch/Recovery System
☐ None ☐ Unknown

Engine Type (Select one)

- ☐ Reciprocating ☐ Liquid Rocket
☒ Turbo Shaft ☐ Solid Rocket
☐ Turbo Prop ☐ Hybrid Rocket
☐ Turbo Jet ☐ None
☐ Turbo Fan ☐ Unknown
☐ Electric

Fuel System Type (Reciprocating)

- ☐ Carburetor ☐ Fuel-Injected

Engine	Engine Manufacturer	Engine Model/Series	Manufacturer's Serial Number	Date of Mfg. mm/dd/yyyy	Rated Power ☒ Horsepower or ☐ lbs of Thrust	Total Time (hours)	Time Since: Inspection (hours)	Overhaul (hours)
Eng. 1	<u>Turbomeca</u>	<u>Arriel 1D1</u>	<u>9788</u>		<u>732 shp</u>			
Eng. 2								
Eng. 3								
Eng. 4								

Last Inspection Type

- ☐ 100-Hour ☐ Continuous Airworthiness
☐ AAIP ☐ Conditional Inspection
☐ Annual ☒ Unknown

Date Last Inspection: _____
mm/dd/yyyy

Airframe Total Time: Appx: 6357 hrs

hours measured at (Select one)

- ☐ Last Inspection ☒ Time of Accident/Incident

Type of Maintenance Program (Select one)

- ☐ Annual
☐ Conditional (Amateur-built only)
☐ Manufacturer's Inspection Program
☐ Other Approved Inspection Program (AAIP)
☐ Continuous Airworthiness
☒ Other, specify: Interval

Description of Fire Extinguishing System

- ☒ None
☐ Specify:

Propeller 1

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

Propeller 2

- ☐ Fixed Pitch
☐ Controllable Pitch
☐ Ground Adjustable

Manufacturer: _____

Model: _____

ELT Installed: ☒ Yes ☐ No

If Yes:

ELT Manufacturer: _____

Model or Part No.: _____

TSO No.: ☐ OC91 (121.5 MHz) ☐ OC91a (121.5 MHz)
☐ OC126 (406 MHz)

Was ELT still mounted in aircraft? ☒ Yes ☐ No

Was ELT still connected to antenna? ☐ Yes ☐ No

Did ELT Activate? ☐ Yes ☒ No

If activated:

Did ELT Aid in Locating Aircraft? ☐ Yes ☒ No

If not activated:

- Indicate Reason: ☐ Impact Damage
☐ Fire Damage
☐ Battery Expired/Damaged
☒ Unknown

Additional Equipment (Check all that apply)

- ☒ ADS-B
☐ Airframe Parachute
☐ Angle of Attack Indicator
☐ Autopilot
☐ Data Recorder
☐ Electronic Flight Bag or Handheld Device
☐ Electronic Multifunction Display
☐ Electronic Primary Flight Display
☐ Handheld GPS
☐ Heads Up Display
☐ Onboard Weather
☐ Satellite Tracking Device
☐ Stall Warning System
☐ Video Recording Device
☐ Other, Specify:

OWNER/OPERATOR INFORMATION**Registered Aircraft Owner**Name: County of Oakland 1200 N. TelegraphCity: PontiacFractional Ownership Aircraft: ☐ Yes ☒ NoState: Mi ZIP: 48341Country: USA**Operator of Aircraft**☒ Same As Registered Owner☒ Same Address as Registered Owner

Name: _____

City: _____

Doing Business As: _____

State: _____ ZIP: _____

Air Carrier/Operator Designator (4 Character Code): _____

Country: _____

Operating Certificates Held

(Check all that apply)

- ☒ None
☐ Flag Carrier Operating Certificate (FAR 121)
☐ Supplemental
☐ Air Cargo
☐ Foreign Air Carriers (FAR 129)
☐ Rotorcraft External Load (FAR 133)
☐ Commuter Air Carrier (FAR 135)
☐ On-Demand Air Taxi (FAR 135)
☐ Commercial Air Tour (FAR 136)
☐ Agricultural Aircraft (FAR 137)
☐ Pilot School (FAR 141)
☐ Certificate of Authorization or Waiver (COA)
☐ Commercial Space Transportation
Experimental Permit
☐ Commercial Space Transportation License
☐ Other Operator of Large Aircraft

Regulation Flight Conducted Under

- ☒ FAR 91 ☐ FAR 129 ☐ FAR 415
☐ FAR 103 ☐ FAR 133 ☐ FAR 431
☐ FAR 121 ☐ FAR 135 ☐ FAR 435
☐ FAR 125 ☐ FAR 137 ☐ FAR 437
- ☐ FAR 91 Special Flight
☐ Non-US, Commercial
☐ Non-US, Non-commercial
- ☐ Public Aircraft (Select one)
☐ Armed Forces
☐ Federal
☐ State
☒ Local
☐ Unknown

Revenue Operation for FAR 121, 125, 129, 135

(Select one for each group)

- ☐ Scheduled or Commuter ☐ Domestic
☐ Non-Scheduled or Air Taxi ☐ International
- ☐ Passenger
☐ Cargo
☐ Mail Contract Only

Purpose of Flight for FAR 91, 103, 133, 137

(Select one)

- ☐ Aerial Application ☐ Firefighting ☐ Unknown
☐ Aerial Observation ☐ Flight Test
☐ Air Drop ☐ Glider Tow
☐ Air Race/Show ☒ Instructional
☐ Banner Tow ☐ Other Work Use
☐ Business ☐ Personal
☐ Executive/Corporate ☐ Positioning
☐ External Load ☐ Skydiving
☐ Ferry

Revenue Sightseeing Flight☐ Yes ☒ No**Air Medical Flight**☐ Yes ☒ No**AIRPORT INFORMATION (Fill in if accident/incident occurred on approach, landing, takeoff, departure, or within 3 miles of an airport)**Airport Name: Romeo StateDistance From Airport Center: 0 smAirport Identifier: D98

Direction From Airport: _____ degrees true

Proximity to Airport: ☐ Off Airport/Airstrip ☒ On Airport/Airstrip ☐ N/AAirport Elevation: 738 ft. msl**Runway Information**Runway ID: 18/36 (L/R/C) Length: 4000 ft Width: 75 ft**Runway/Landing Surface (Check all that apply)**

- ☒ Asphalt ☐ Grass/Turf ☐ Macadam ☐ Water
☐ Concrete ☐ Gravel ☐ Metal/Wood
☐ Dirt ☐ Ice ☐ Snow ☐ Unknown

Condition of Runway/Landing Surface (Check all that apply)

- ☒ Dry ☐ Snow-Compacted ☐ Water-Calm
☐ Holes ☐ Snow-Crusted ☐ Water-Choppy
☐ Ice Covered ☐ Snow-Dry ☐ Water-Glassy
☐ Rough ☐ Snow-Wet ☐ Wet
☐ Rubber Deposits ☐ Soft
☐ Slush-Covered ☐ Vegetation ☐ Unknown

Approach/Departure Segment (Select one)

- ☐ Taxi ☐ VFR Departure ☐ On Instrument Approach ☐ Downwind ☐ Low Approach
☐ Takeoff ☐ IFR Departure Procedure/Clearance ☐ Landing ☐ Base ☐ Go Around
☐ Initial Climb ☐ Aborted Landing (after touchdown)
☐ Crosswind ☐ Unknown

IFR Approach (Check all that apply)

- ☒ None
- ☐ ADF/NDB ☐ PAR ☐ MLS ☐ Practice
☐ SDF ☐ Sidestep ☐ LDA ☐ GPS
☐ VOR/TVOR ☐ ILS ☐ ASR
☐ VOR/DME ☐ Localizer Only ☐ Visual
☐ TACAN ☐ LOC-back course ☐ Contact
☐ RNAV ☐ Circling
☐ Unknown

VFR Approach (Check all that apply)

- ☐ None
- ☐ Traffic Pattern ☐ Stop and Go
☐ Straight-In ☐ Touch and Go
☐ Valley/Terrain Following ☒ Simulated Forced Landing
☐ Go Around ☐ Forced Landing
☐ Full Stop ☐ Precautionary Landing
☐ Unknown

"FLIGHT CREWMEMBER 1" INFORMATION

"Flight Crewmember 1" Responsibilities at the Time of Accident/Incident

☐ Pilot
 ☐ Co-Pilot
 ☐ Student Pilot
 ☒ Flight Instructor
 ☐ Check Pilot
 ☐ Flight Engineer
 ☐ Other Flight Crew

"Flight Crewmember 1" was pilot flying ☒ Yes ☐ No

"Flight Crewmember 1" Identification

First Name: Bruce City of Residence: Boyne City
 Middle Initial: R State: Michigan ZIP: 49712
 Last Name: Barget Country: USA
 Age at time of Accident/Incident: 67 Date of Birth: mm/dd/yyyy
 Certificate Number: Cfl

Degree of Injury ☒ None ☐ Fatal ☐ Minor ☐ Unknown ☐ Serious	Seat Occupied ☒ Left ☐ Front ☐ Unknown ☐ Right ☐ Rear ☐ Center ☐ Single	Restraint Type <table style="width: 100%;"> <tr> <th style="text-align: left;">Available</th> <th style="text-align: left;">Used</th> </tr> <tr> <td>☐ None</td> <td>☐ None</td> </tr> <tr> <td>☐ Lap only</td> <td>☐ Lap only</td> </tr> <tr> <td>☒ 3-point</td> <td>☒ 3-point</td> </tr> <tr> <td>☐ 4-point</td> <td>☐ 4-point</td> </tr> <tr> <td>☐ 5-point</td> <td>☐ 5-point</td> </tr> <tr> <td>☐ Unknown</td> <td>☐ Unknown</td> </tr> </table>	Available	Used	☐ None	☐ None	☐ Lap only	☐ Lap only	☒ 3-point	☒ 3-point	☐ 4-point	☐ 4-point	☐ 5-point	☐ 5-point	☐ Unknown	☐ Unknown	Inflatable Restraints ☒ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Available	Used																
☐ None	☐ None																
☐ Lap only	☐ Lap only																
☒ 3-point	☒ 3-point																
☐ 4-point	☐ 4-point																
☐ 5-point	☐ 5-point																
☐ Unknown	☐ Unknown																
Pilot Certificate(s) (Check all that apply) ☐ None ☒ Flight Instructor ☒ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☐ Student ☐ Sport ☐ Flight Engineer		Medical Certificate ☐ None ☐ Class 3 ☐ Class 1 ☐ Driver's License (Sport Pilot only) ☒ Class 2 ☐ Unknown															
Principal Occupation ☒ Pilot ☐ Other ☐ Unknown	Medical Certificate Validity ☐ Without limitations/waivers ☐ Unknown ☒ With limitations/waivers ☐ N/A ☐ Special Issuance		Date of Last Medical <u>10/20/2020</u> <i>mm/dd/yyyy</i>														

Medical Certificate Limitations

Holder shall possess glasses for near/intermediate vision

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks:

11/19/2020
mm/dd/yyyy

Flight Review Aircraft

Make: Bell Helicopter & Robinson Helicopter
 Model: Review recap: FAR 135 : Bell 430 11/19/2020, FAR 61: R44 & R22 4/2021

Airplane Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Single-Engine Land ☐ Single-Engine Sea ☐ Multiengine Land ☐ Multiengine Sea	Other Aircraft Rating(s) <i>(Check all that apply)</i> ☐ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☒ Helicopter ☐ Powered Lift	Instrument Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Airplane ☒ Helicopter ☐ Powered Lift	Instructor Rating(s) <i>(Check all that apply)</i> ☐ None ☒ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift ☒ Instrument Airplane ☒ Instrument Helicopter ☒ Helicopter ☐ Glider ☐ Sport
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Type Ratings

Student Endorsements (Include dates)

Flight Time (Enter appropriate number of hours in each box)	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	3,760	55	1,732	22		50	458	1,978		
Pilot in Command (PIC)	3,308									
Time as Instructor	505									
This Make/Model										
Last 90 Days	31	25						31		
Last 30 Days	11	10						11		
Last 24 Hours	0	0						0		

“Flight Crewmember 2” Responsibilities at the Time of Accident/Incident

“Flight Crewmember 2” was pilot flying ☐ Yes ☐ No

First Name: Jennifer

City of Residence: **Macomb**

Middle Initial: A

State: **Mj** ZIP: **48044**

Last Name: Downey

Country: **USA**

Age at time of Accident/Incident: 34 Date of Birth: [REDACTED] mm/dd/yyyy

Certificate Number: Pending

Degree of Injury ☒ None ☐ Fatal ☐ Minor ☐ Unknown ☐ Serious		Seat Occupied ☐ Left ☐ Front ☐ Unknown ☒ Right ☐ Rear ☐ Center ☐ Single		Restraint Type Available ☐ None ☐ Lap only ☒ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap only ☒ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		Inflatable Restraints ☒ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Pilot Certificate(s) <i>(Check all that apply)</i> ☐ None ☐ Flight Instructor ☐ Commercial ☐ US Military ☐ Private ☐ Recreational ☐ Airline Transport ☐ Foreign ☒ Student ☐ Sport ☐ Flight Engineer						
Principal Occupation ☐ Pilot ☒ Other ☐ Unknown	Medical Certificate ☐ None ☒ Class 3 ☐ Class 1 ☐ Driver's License (Sport Pilot only) ☐ Class 2 ☐ Unknown		Medical Certificate Validity ☒ Without limitations/waivers ☐ Unknown ☐ With limitations/waivers ☐ N/A ☐ Special Issuance		Date of Last Medical <u>02/19/2021</u> <i>mm/dd/yyyy</i>	

Medical Certificate Special Issuance

Date of Last Flight Review or Equivalent, Including FAR 121/135 Checks: _____ <i>mm/dd/yyyy</i>	Flight Review Aircraft Make: _____ Model: _____
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Airplane Rating(s) (Check all that apply)	Other Aircraft Rating(s) (Check all that apply)	Instrument Rating(s) (Check all that apply)	Instructor Rating(s) (Check all that apply)
☒ None ☐ Single-Engine Land ☐ Single-Engine Sea ☐ Multiengine Land ☐ Multiengine Sea	☒ None ☐ Airship ☐ Balloon ☐ Glider ☐ Gyroplane ☐ Helicopter ☐ Powered Lift	☒ None ☐ Airplane ☐ Helicopter ☐ Powered Lift	☒ None ☐ Airplane Single-Engine ☐ Airplane Multi-Engine ☐ Gyroplane ☐ Powered Lift ☐ Instrument Airplane ☐ Instrument Helicopter ☐ Helicopter ☐ Glider ☐ Sport

Type Ratings	Student Endorsements <i>(Include dates)</i> TSA 9/2020 Pre-Solo Training Endorsement 8/18/2021 Pre-Solo Knowledge Exam 8/18/2021 90 Day Solo Endorsement 8/19/2021
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Flight Time <i>(Enter appropriate number of hours in each box)</i>	All Aircraft	This Make & Model	Airplane Single Engine	Airplane Multiengine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	28	28						28		
Pilot in Command (PIC)	1									
Time as Instructor										
This Make/Model										
Last 90 Days	12	12						12		
Last 30 Days	11	11						11		
Last 24 Hours	0	0						0		

ADDITIONAL FLIGHT CREWMEMBERS (Exclusive of cabin crew, complete the following information)						
Crew Name and Address				Seat Occupied		Injury
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____				☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown		☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Private ☐ Student ☐ Flight Instructor ☐ Recreational ☐ Sport ☐ Commercial ☐ Airline Transport ☐ Flight Engineer ☐ US Military ☐ Foreign				Restraint Type: Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		Inflatable Restraints ☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Type Rating/Endorsement for Accident/Incident Aircraft? ☐ Yes ☐ No		Total Flight Time at the Time of this Accident/Incident: _____ hrs				
Crew Name and Address				Seat Occupied		Injury
First Name: _____ City of Residence: _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____				☐ Left ☐ Front ☐ Center ☐ Rear ☐ Right ☐ Single ☐ Unknown		☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown
Pilot Certificate(s) (Check all that apply) ☐ None ☐ Private ☐ Student ☐ Flight Instructor ☐ Recreational ☐ Sport ☐ Commercial ☐ Airline Transport ☐ Flight Engineer ☐ US Military ☐ Foreign				Restraint Type: Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		Inflatable Restraints ☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
Type Rating/Endorsement for Accident/Incident Aircraft? ☐ Yes ☐ No		Total Flight Time at the Time of this Accident/Incident: _____ hrs				
PASSENGER(S) / OTHER PERSONNEL (Include cabin crew; continue on separate sheet if necessary)						
Name and Address		Seat	Injury	Restraint Type		Inflatable Restraints
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other		☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
						☐ Under 5 years <i>If Under 5,</i> ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other		☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
						☐ Under 5 years <i>If Under 5,</i> ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other		☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
						☐ Under 5 years <i>If Under 5,</i> ☐ Child Restraint ☐ Lap-Held ☐ Unknown
First Name: _____ City : _____ Middle Initial: _____ State: _____ ZIP: _____ Last Name: _____ Country: _____ ☐ Crew ☐ Passenger ☐ Other		☐ Left ☐ Center ☐ Right ☐ Unknown Row: _____	☐ None ☐ Minor ☐ Serious ☐ Fatal ☐ Unknown	Available ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown Used ☐ None ☐ Lap Only ☐ 3-point ☐ 4-point ☐ 5-point ☐ Unknown		☐ Not Installed ☐ Installed ☐ Not Deployed ☐ Deployed ☐ Unknown
						☐ Under 5 years <i>If Under 5,</i> ☐ Child Restraint ☐ Lap-Held ☐ Unknown

FLIGHT ITINERARY INFORMATION

Last Departure Point Airport ID: <u>D95</u> City: <u>Lapeer</u> State: <u>Mich</u> Country: <u>USA</u>	Time of Departure Time: <u>Appx 10:30</u> Time Zone: <u>EST</u>	Destination Airport ID: <u>D98</u> City: <u>Romeo</u> State: <u>Mich</u> Country: <u>USA</u>	Type Flight Plan Filed ☒ None ☐ VFR/IFR ☐ Company VFR ☐ IFR ☐ Military VFR ☐ Unknown ☐ VFR Activated? ☐ Yes ☐ No ☐ Unknown
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Type of ATC Clearance/Service (Check all that apply)				
☒ None	☐ Special VFR	☐ Special IFR	☐ VFR Flight Following	☐ Cruise
☐ VFR	☐ IFR	☐ VFR On Top	☐ Traffic Advisory	☐ Unknown / NA

Airspace where the accident/incident occurred (Check all that apply)			Altitude of In-Flight Occurrence: _____ ft msl
☐ Class A	☒ Class G	☐ Military Operations Area (MOA)	☐ Special
☐ Class B	☐ Demo Area	☐ Airport Advisory Area	☐ Air Traffic Control Area
☐ Class C	☐ Warning Area	☐ Jet Training Area	☐ Unknown
☐ Class D	☐ Prohibited Area	☐ TRSA	
☐ Class E	☐ Restricted Area	☐ FAR 93	

WEATHER INFORMATION AT THE ACCIDENT/INCIDENT SITE

Source of Pilot Weather Information (Check all that apply)	Weather Observation Facility
☒ National Weather Service ☐ Flight Service Station ☐ TV/Radio ☒ Automated Report ☐ Commercial Weather Service (DUATS) ☐ On-Board Weather	Facility ID: <u>KPTK</u> Observation Time: <u>Apprx 10:35 AM</u> Time Zone: <u>EST</u> Distance from Accident Site: <u>25</u> nm Direction from Accident Site: <u>203</u> degrees true
☐ Company ☐ Military ☒ Internet ☐ None ☐ Unknown	

Basic Conditions ☒ VMC ☐ IMC ☐ Unknown	Light Condition ☐ Dawn ☐ Dusk ☐ Dark Night ☐ Unknown ☒ Day ☐ Night ☐ Bright Night
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Sky/Lowest Cloud Condition ☐ Clear ☐ Thin Broken ☒ Few ☐ Thin Overcast ☐ Partial Obscuration ☐ Unknown ☐ Scattered	Ceiling ☐ None (Clear) ☐ Obscured ☐ Broken ☐ Indefinite ☒ Overcast ☐ Unknown	Temperature: <u>21</u> (C) or _____ (F) Dew Point: <u>15</u> (C) or _____ (F) Altimeter Setting: <u>29.98</u> in. Hg or _____ MB
Lowest Cloud Condition Height <u>3900</u> ft agl	Ceiling Height <u>21,000</u> ft agl	

Wind Direction ☒ Variable -or- Direction: <u>290</u> degrees true	Wind Speed ☐ Calm ☒ Light and Variable -or- Speed: <u>4</u> kts	Wind Gusts ☒ Not Gusting -or- Speed: _____ kts	Visibility <u>10</u> miles RVR: _____ feet RVV: _____ miles Density Altitude: _____ ft
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Intensity of Precipitation ☐ Light ☐ Moderate ☐ Heavy ☒ N/A ☐ Unknown	Type of Precipitation (Check all that apply)	Restriction to Visibility (Check all that apply)
	☒ None ☐ Drizzle ☐ Freezing Rain ☐ Rain ☐ Ice Pellets ☐ Snow Shower ☐ Snow ☐ Snow Pellets ☐ Ice Pellets Shower ☐ Hail ☐ Snow Grains ☐ Freezing Drizzle ☐ Rain Showers ☐ Ice Crystals	☒ None ☐ Fog ☐ Blowing Dust ☐ Ground Fog ☐ Blowing Sand ☐ Haze ☐ Blowing Snow ☐ Ice Fog ☐ Blowing Spray ☐ Smoke ☐ Dust ☐ Unknown

Icing Forecast	Icing Actual	Turbulence																																						
<table border="0"> <tr> <th>Amount</th> <th>Type</th> </tr> <tr> <td>☒ None</td> <td>☐ N/A</td> </tr> <tr> <td>☐ Trace</td> <td>☐ Rime</td> </tr> <tr> <td>☐ Light</td> <td>☐ Clear</td> </tr> <tr> <td>☐ Moderate</td> <td>☐ Mixed</td> </tr> <tr> <td>☐ Severe</td> <td>☐ Unknown</td> </tr> <tr> <td>☐ Unknown</td> <td></td> </tr> </table>	Amount	Type	☒ None	☐ N/A	☐ Trace	☐ Rime	☐ Light	☐ Clear	☐ Moderate	☐ Mixed	☐ Severe	☐ Unknown	☐ Unknown		<table border="0"> <tr> <th>Amount</th> <th>Type</th> </tr> <tr> <td>☒ None</td> <td>☐ N/A</td> </tr> <tr> <td>☐ Trace</td> <td>☐ Rime</td> </tr> <tr> <td>☐ Light</td> <td>☐ Clear</td> </tr> <tr> <td>☐ Moderate</td> <td>☐ Mixed</td> </tr> <tr> <td>☐ Severe</td> <td>☐ Unknown</td> </tr> <tr> <td>☐ Unknown</td> <td></td> </tr> </table>	Amount	Type	☒ None	☐ N/A	☐ Trace	☐ Rime	☐ Light	☐ Clear	☐ Moderate	☐ Mixed	☐ Severe	☐ Unknown	☐ Unknown		<table border="0"> <tr> <th>Type</th> <th>Severity</th> </tr> <tr> <td>☒ None</td> <td>☐ Light</td> </tr> <tr> <td>☐ Clear Air</td> <td>☐ Moderate</td> </tr> <tr> <td>☐ Terrain-Induced</td> <td>☐ Severe</td> </tr> <tr> <td>☐ Convective Turbulence</td> <td>☐ Extreme</td> </tr> </table>	Type	Severity	☒ None	☐ Light	☐ Clear Air	☐ Moderate	☐ Terrain-Induced	☐ Severe	☐ Convective Turbulence	☐ Extreme
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NOTAMs (D and FDC), AIRMETs, SIGMETs, PIREPs in effect at the time of the accident/incident:

DAMAGE TO AIRCRAFT AND OTHER PROPERTY**Aircraft Damage**

- ☐ None ☐ Substantial
☐ Minor ☐ Destroyed
☒ Unknown

Aircraft Fire

- ☒ None ☐ Both Ground and In-Flight
☐ In-Flight ☐ Fire at Unknown Time
☐ On-Ground ☐ Unknown

Aircraft Explosion

- ☒ None ☐ Both Ground and In-Flight
☐ In-Flight ☐ Explosion at Unknown Time
☐ On-Ground ☐ Unknown

Description of Damage to Aircraft and Other Property *(Use additional sheet if necessary)*

Approximately One and a half (1.5) feet of the Tail Rotor Cover and Drive Shaft was severed and the "StarFlex" at the Rotor Head cracked at one (1) blade attachment point. Further investigation is ongoing.

NARRATIVE HISTORY OF FLIGHT *(Please type or print in ink)*

Describe what occurred in chronological order, including circumstances leading to and nature of accident/incident. Describe terrain and include wreckage distribution sketch if pertinent. Attach extra sheets if needed. State departure time and location, services obtained, and intended destination. Provide as much detail as possible.

See attached documents submitted on 9/15/2021. Included in this report is an attachment of the Romeo Airport (D98) Airport Supplement diagram showing the practice area (Closed section of the Southeast Corner) we have been given permission (at Romeo) to use to stay out of Fixed Wing traffic as much as possible and the location of the wind sock. This section is outlined in blue. Just before the Intersection of the active runway and closed section of old runway, is our aiming point for approaches.

Student had demonstrated "straight-in power recovery autorotations" to Instructor pilot before Student performed Solo Flight previously. The "180 power recovery autorotation", Student was following/performing on the controls and Instructor Pilot was demonstrating.

RECOMMENDATION (How could this accident/incident have been prevented?)

Operator/Owner Safety Recommendation

The "Fuel Control" on this aircraft is to the right and down on the floor by the person seated in the left seat and in this case the Instructor Pilot. Being the Instructor, since the "Fuel Control" is not associated with the "Collective Control", like most small to medium helicopters, and a twist throttle at the end of the Collective Control, which is at your left hand, adjustment to it in full flight requires you to remove a hand from a flight control to adjust it. This means the Instructor must switch hands from the Cyclic Control in your right hand to now the Cyclic Control is in your left hand. You now have the Collective Control unguarded to adjust the Fuel Control with your right hand.

It also diverts your visual attention to assure it is in the "Flight Detent".

Also, gauges are slewed (angled) to the right for better visual for the right pilot not necessarily giving the left seat person a direct view. So in this case the "Engine RPM Percentage".

MECHANICAL MALFUNCTION/FAILURE (If more space is needed, continue on separate sheet)

Was there Mechanical Malfunction/Failure? ☐ Yes ☒ No

(If yes, list the name of the part, manufacturer, part no., serial no., and describe the failure.)

**Total Time/Cycles
On Part**

_____ Hours

_____ Cycles

**Time Since This Part
Inspected/Overhauled**

_____ Hours

FUEL & SERVICES INFORMATION**Fuel on Board at Last Takeoff**

(Convert from pounds, as necessary)

Approx 70 gallons Gallons

Fuel Type

☐ 80/87

☐ 115/145

☐ Jet B

☐ Other, specify _____

☐ 100 Low Lead

☒ Jet A

☐ JP8

☐ 100/130

☐ Jet A-1

☐ Automotive

Other Services, if Any, Prior to Departure**EVACUATION OF AIRCRAFT**

Was an emergency evacuation of the aircraft performed? ☐ Yes ☒ No

Method of Exit – Describe how the occupants exited and how many occupants evacuated each location

Evacuation of the pilots was through each Pilot door (right and left).

OTHER AIRCRAFT – COLLISION (If air or ground collision occurred, complete this section for other aircraft)

Aircraft Registration Number

Manufacturer: _____

Model: _____

Damage to Other Aircraft

☐ Destroyed

☐ Minor

☐ Substantial

☐ None

Registered Owner of Other Aircraft

Name: _____

City: _____

State: _____ ZIP: _____

Country: _____

Pilot of Other Aircraft

Name: _____

City: _____

State: _____ ZIP: _____

Country: _____

ADDITIONAL INFORMATION (Please type or print in ink)

Use this space if additional space is needed for any answers.

See attached documents.

I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE**Date of this Report**09/22/2021*mm/dd/yyyy***Name of Pilot/Operator:** Bruce R. Barget (IP)**Signature:** _____

-- or -- ☒ Check here to electronically sign this document

If a Person Other than Pilot/Operator is Filing Report**Name:** _____**Title:** _____**Signature:** _____

-- or -- ☐ Check here to electronically sign this document

FOR NTSB USE ONLY**NTSB Accident/Incident No.**CEN21LA431**Reviewed by NTSB Regional Office**Central Region**Name of Investigator**Andrew Todd Fox**Date Report Received**22 SEP 2021

9/15/2021

Ref: Training Accident at Romeo Airport D95 Power Recovery 180 Autorotation (9/15/2021)

Bruce Barget CFII 12/22

Certified Flight Instructor Helicopter, hours to date to this incident:

Approx:	3760 hrs.
Simulator time:	453 hrs.
Turbine Helicopter hours:	1015 hrs.
As Flight Instructor hours:	505 hrs.
AS350-B2 hours:	55 hrs.

On 9/15/2021 Jennifer Downey (Student Pilot in training) and myself departed the Oakland Pontiac Airport toward the Lapeer County Airport to do some training and Solo Flight Practice. On the way to the Lapeer Airport, training procedures were performed, along with emergency procedures. At the Lapeer Airport we made take-off, landing and flight procedures that are according to our training syllabus.

After approximately one (1) hour of flight, we decided to proceed to the Romeo Airport for Solo Flight practice, since the area was clearer and available for less traffic. Our syllabus, at this point, suggests it would be appropriate to demonstrate the Power Recovery 180 Autorotation to Students, to give them the added knowledge that if an emergency situation happens during your Solo Flight, here is what the maneuver accomplishes. This is NOT a maneuver to touch down the helicopter on the ground, but to come to a stabilized complete stop, at a hover, at an altitude of 5 to 10 feet above the ground.

After making our radio communications and clearing ourselves for the approach in Romeo Airport, we set ourselves up for the Power Recovery 180 Autorotation. Using the proper entry method recommended by Airbus (AS350-B2) for this maneuver, arriving at the Point of Entry to our right, we started the maneuver by Lowering the Collective lever, adjusting trim attitude and proper airspeed of 65-70 KTS. At that point, we lowered the Fuel Control to approximately 75% (N1) and initiated our right turn. The Fuel Control is lowered to that value, to simulate an engine failure and allowing the Helicopters Rotor System to glide the helicopter to an area for a safe landing. The "Fuel Control" of this aircraft is different than most small to medium size helicopters, in that it requires you to take your hands off a flight control while flying to make an adjustment to it.

We adjusted our Attitude, Airspeed and Rotor RPM (proper safe entry values) in the maneuver to arrive at our assumed 5-10 foot height hover point. Keeping our eyes outside of the aircraft and making the necessary glances at the instruments. At approximately 200 to 100 feet above the ground and lining up with the hover spot, I reached down to move the "Fuel Control" back

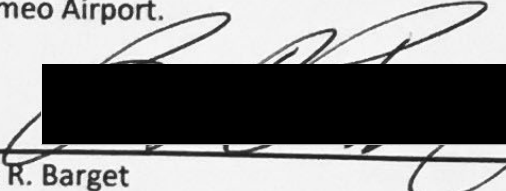
to the "Flight Detent" setting for 100% engine engagement. My view (from the left seat) of the Engine RPM needle location was situated at an angle that I did not notice that it did not reach proper RPM. My attention at this time was again, Attitude, Airspeed and Rotor RPM to the spot we intended to hover and also my feeling we had reached the "Flight Detent" setting. The Lower Rotor RPM became steady, meaning that the Helicopter Rotor System was getting to a spot that attention should be given to making sure we are in the proper Rotor System Range. Operation in the lower rotor warning range is not uncommon and can be corrected by control system inputs. Plus, the turbine engine does take a momentary delay to reach its proper Engine RPM even though the Fuel Control is advanced.

At approximately 60-foot height we initiated the first "Flare Action" and "Collective Check" of the cyclic and collective. The application of the Flare and Collective Check would bring the Rotor System back up to the proper range from Rotor Coning action (like a skater doing the pirouette) and let the Engine bring it to the proper RPM state. This momentarily stopped the Low Rotor RPM warning. The action of the "Flare" and "Collective Check" is also to slow the aircraft forward motion and vertical descent and starts the leveling process of the helicopter to the ground.

That is when I noticed further decline of the Rotor RPM and glanced down at the "Fuel Control" lever and saw that I did not fully engage into the detent to get near 100% engine operation. Because of the location of the "Fuel Control" being at my lower right of my seat, I would have to take my hands off the "Cyclic" control and "Collective" control simultaneously to switch hands to the "Cyclic" and "Fuel Control" at a time that Aircraft Control is more important.

At this point, we were now at approximately 10 to 15 feet in the air and coming to a stop with little or no Engine Energy to the Rotor System with the Rotor RPM diminishing. I leveled the helicopter further with forward motion of the cyclic to make sure we contacted the ground in a level attitude and forward motion, as much as possible. We hit the ground at the spot that we had aimed, bounced once and slid down the runway approximately 20-30 yards. I then moved the "Fuel Control" to the shut-off position and reached for the Rotor Brake to stop the Rotor System. The helicopter started to go into a rapid rocking motion, at that time I did not know the damage to any of the systems.

I focused on the controls to make sure that no other problem would occur and applied control inputs, for the short period of time that it happened. The Rotor System stopped and the engine was now shut down. I then asked if Jennifer was ok, which she replies, "That was a hard landing but Ok I think." I then opened the door of the aircraft to see what had happened to the aircraft and then told Jennifer to call the office and tell them we had an accident on the runway at Romeo Airport.


[REDACTED]
Bruce R. Barget

ROMEO STATE (D98) 2 E UTC-5(-4DT) N42°47.78' W82°58.46'

739 B NOTAM FILE LAN

RWY 18-36: H4000X75 (ASPH) MIRL

RWY 18: REIL. PAPI(P4L)—GA 3.0° TCH 20'. Thld dspcd 470'. Trees.

RWY 36: REIL. PAPI(P4L)—GA 3.0° TCH 22'. Road.

SERVICE: **FUEL** 100LL, JET A **LGT** ACTIVATE MIRL Rwy 18-36; PAPI Rwy 18 and Rwy 36; REIL Rwy 18 and Rwy 36—CTAF. PAPI Rwy 18 OTS indef.

AIRPORT REMARKS: Attended Mon-Fri 1300-2100Z±. Fuel 100LL & A, 24 hr self svc. Deer and birds invof rwy. Rwy sfc condition unmonitored between 2100-1300Z±.

AIRPORT MANAGER: 586-336-9116

COMMUNICATIONS: CTAF/UNICOM 122.8

Ⓡ **SEFRIDGE APP/DEP CON** 119.6 (hrs 1200-0400Z±, exc holidays other times uncontrolled for DHS, ARNG, USCG or emerg opr. other times etc)

Ⓡ **CLEVELAND CENTER APP/DEP CON** 126.525 ctc Cleveland ARTCC at 440-774-0229.

CLEARANCE DELIVERY PHONE: For CD ctc Cleveland ARTCC at 440-774-0490.

RADIO AIDS TO NAVIGATION: NOTAM FILE PTK.

PONTIAC (L) DME 111.0 PSI Chan 47 N42°42.05' W83°31.97' 077° 25.3 NM to fld. 1149/OW.

**DETROIT
COPTER
L-28J
IAP**

